

CLAIMS

What is Claimed is:

1. 1. An alignment device comprising:
 2. a. a first transmitter and a first receiver for transmitting positioning signals from a positioning object and for receiving alignment signals from a target object, respectively, when the positioning object and the target object are aligned;
 3. b. a second transmitter and a second receiver for transmitting the alignment signals and for receiving the positioning signals; and
 4. c. an indicator for indicating when the positioning object and the target object are aligned.
5. 2. The alignment device of claim 1, wherein the first transmitter is a laser for generating laser light positioning signals and the second receiver is a photo-sensor for detecting the laser light positioning signals.
6. 3. The alignment device of claim 2, further comprising a first optical configuration for projecting the laser light into an elongated laser beam.
7. 4. The alignment device of claim 3, further comprising a second optical configuration for filtering background light from the second receiver.
8. 5. The alignment device of claim 1, wherein the second transmitter is a radio-frequency generator for generating radio alignment signals and the first receiver is a radio-frequency receiver for detecting the radio frequency alignment signals.
9. 6. The alignment device of claim 1, wherein the indicator comprises a display element.
10. 7. The alignment device of claim 6, wherein the display element is configured to generate light.
11. 8. The alignment device of claim 1, wherein the first transmitter and the first receiver are

2 configured to detachably couple to the positioning object.

1 9. The alignment device of claim 1, wherein the second transmitter and the second receiver
2 are configured to be removably positioned near the target object.

1 10. A system for tracking a trajectory of an object relative to a target area, the system
2 comprising:

- 3 a. means for generating positioning signals from the object in a direction
4 corresponding to the trajectory of the object;
- 5 b. means for detecting the positioning signals when the trajectory of the object is
6 laterally aligned with the target area;
- 7 d. means for generating the alignment signals when the positioning signals are
8 detected; and
- 9 c. means for detecting the alignment signals.

1 11. The system of claim 10, wherein the means for generating positioning signals comprises a
2 laser device.

1 12. The system of claim 11, wherein the laser device is configured to emit an elongated laser
2 beam.

1 13. The system of claim 12, wherein the means for detecting the positioning signals is
2 configured to detect the axial alignment of the object.

1 14. The system of claim 10, wherein the means for detecting the positioning signals
2 comprises a photo-detector device.

1 15. The system of claim 14, wherein the photo-detector device is configured to selectively
2 detect laser light.

1 16. The system of claim 10, wherein the means for generating the alignment signals
2 comprises a radio-frequency transmitter.

3 17. The system of claim 16, wherein the means for detecting the alignment signals comprises
4 a radio frequency receiver.

1 18. The system of claim 10, further comprising means to communicate when the trajectory of
2 the object is laterally aligned with the target.

1 19. The system of claim 18, wherein the means to communicate comprises a light display
2 element.

1 20. A positioning and alignment system comprising:
2 a. a target unit for positioning near a target; and
3 b. a positioning unit for coupling to an object, wherein the positioning unit
4 communicates a positioning signal to the target unit and the target unit
5 communicates an alignment signal to the positioning unit when the positioning
6 unit and the target unit are in alignment.

1 21. The positioning and alignment system of claim 20, wherein the positioning unit is
2 configured to illuminate light when the target unit communicates the alignment signal to
3 the positioning unit.

1 22. The positioning and alignment system of claim 20, wherein the positioning unit
2 comprises an optical transmitter for communicating with the target unit.

1 23. The positioning and alignment system of claim 20, wherein the target unit comprises a
2 radio transmitter for communicating with the positioning unit.

1 24. The positioning and alignment system of claim 20, wherein the positioning unit is
2 configured to couple to a golfing putter and the target unit is configured to be positioned
3 near a golf ball target, wherein the positioning and alignment system monitors positioning
4 and alignment of a golfer's putting trajectory.